R&S®BBA100
Broadband Amplifier
Specifications

ROHDE&SCHWARZ

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Specifications apply under the following conditions: 15 minutes warm-up time at ambient temperature, specified environmental conditions met, calibration cycle adhered to, and all internal automatic adjustments performed. "Typical values" are designated with the abbreviation "typ.". These values are verified during the final test but are not assured by Rohde & Schwarz. "Nominal values" are design parameters that are not assured by Rohde & Schwarz. These values are verified during product development but are not specifically tested during production.

Rohde & Schwarz equipment is designed for reliable operation up to an altitude of 3000 m above sea level, and for transport up to an altitude of 4600 m above sea level.

Data without tolerance limits is not binding.

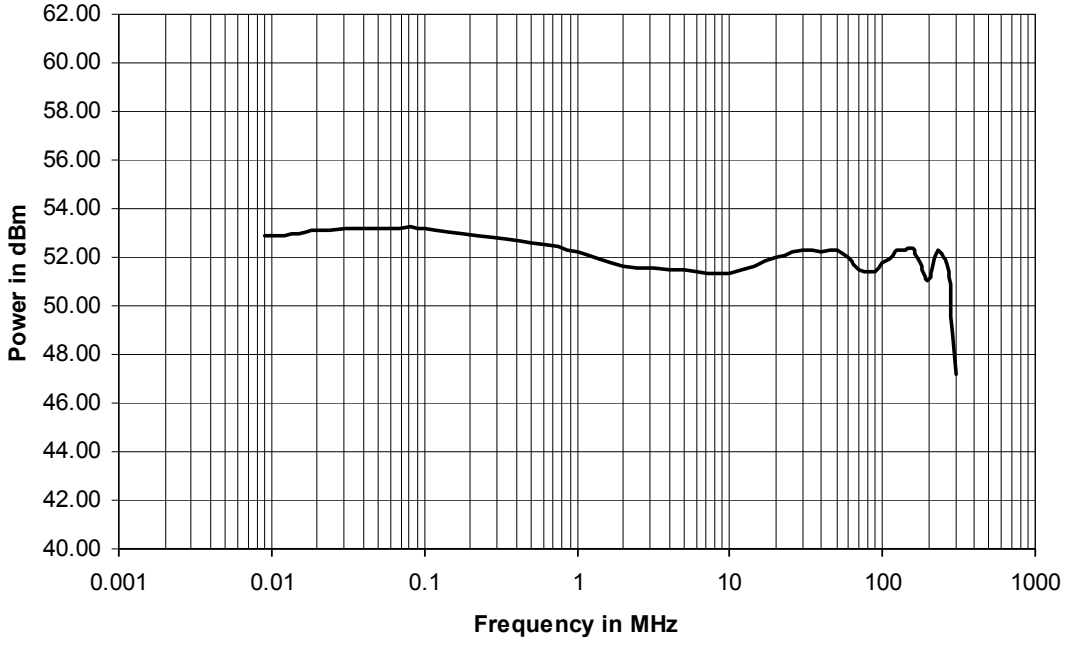
RoHS Europe, Directive 2002/95/EC: Equipment category 9, fulfilled without any exceptions.

WEEE Europe, Directive 2002/96/EC:
No disposing with unsorted municipal waste; no return with collection of waste electrical and electronic equipment from private households. Separate collection necessary. Ask Rohde & Schwarz representatives about recovery.

Frequency band 9 kHz to 250 MHz

Power class 125 W

Frequency response at 1 dB compression



RF specifications

Main parameters		
Frequency range		9 kHz to 250 MHz instantaneously
Nominal output load		50 Ω
Nominal power		125 W
Power output	at power saturation	max. 200 W
	at 1 dB compression	typ. 125 W, min. 100 W
Nominal power gain	without RF input switch module	54.5 dB
	with RF input switch module	51.0 dB
Gain flatness	at 1 dB compression and +25 °C	< 3 dB
	at 1 dB compression and temperature range 0 °C to +45 °C	< 5 dB
Gain adjustment range		> 20 dB
Harmonics	at 100 W	< –20 dBc
	at 125 W	< –19 dBc
Third order intercept point (TOI)		min. 55 dBm
Spurious		typ. –80 dBc, max. –70 dBc
Noise figure	at maximum gain, without RF input switch module	nom. < 13.5 dB
	at maximum gain, with RF input switch module	nom. < 17.0 dB

Input		
Nominal input impedance		50 Ω
Input level for nominal output power	without RF input switch module	–3.5 dBm
	with RF input switch module	0 dBm
Input VSWR	at 50 Ω	max. 2:1
Input maximum level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance		100 %
Output power forward	at VSWR < 10:1	100 %
Output mismatch protection, VSWR		10:1

RF sample and detected sample signals		
RF sample coupling factor	RF forward and reflected sample signal, optionally	60 dB ± 1 dB
Detected sample signal level	detected forward and reflected sample signal, optionally	0.1 V to 3.0 V DC

Mechanical specifications

System size		
Dimensions	overall W × H × D, incl. fans, handholds and stand	430 mm × 250 mm × 710 mm (16.93 in × 9.84 in × 27.95 in)
	for rackmounting	19" 1/1, 5 HU
Weight	base unit	approx. 22 kg (approx. 48 lb)
	with typical options	approx. 23 kg (approx. 50 lb)

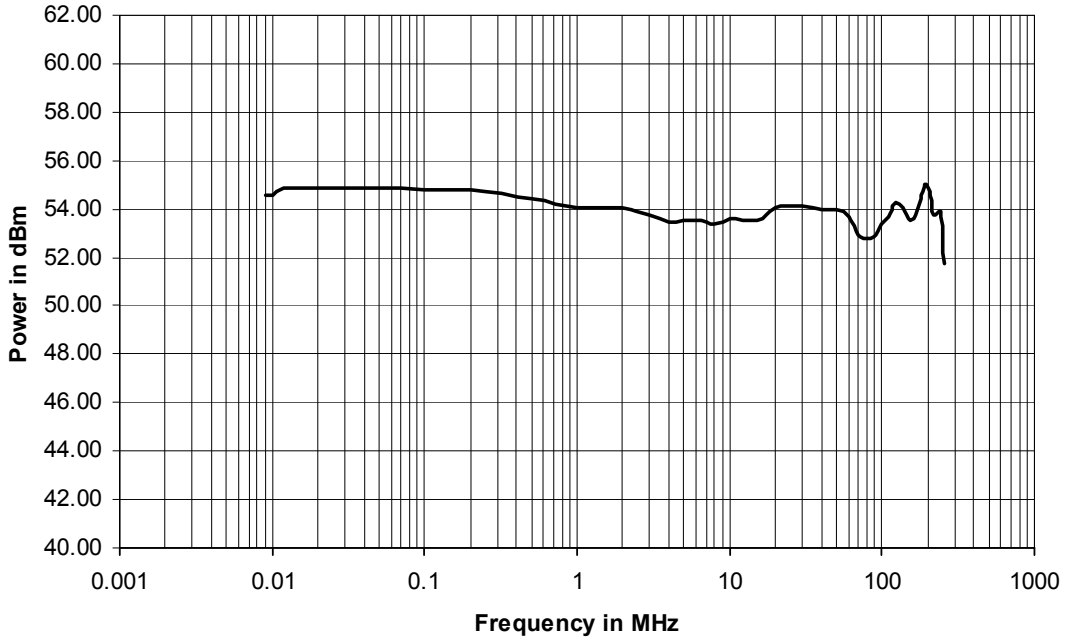
RF and sample connectors		
RF input port	front panel, alternatively	N female
	rear panel, alternatively	SMA female
RF output port	front panel, alternatively	N female
	rear panel, alternatively	N female
RF sample port	forward output power, optionally	SMA female
	reflected output power, optionally	SMA female
Detected sample port	forward output power, optionally	SMA female
	reflected output power, optionally	SMA female

Electrical specifications

Supply voltage AC		
Operating voltage range		100 V to 240 V AC, 50/60 Hz, single phase
Permissible voltage variation		90 V to 264 V AC, 47 Hz to 63 Hz
Nominal current	at 110 V	< 7.7 A
	at 230 V	< 3.7 A
Maximum power consumption		< 840 VA

Power class 250 W

Frequency response at 1 dB compression



RF specifications

Main parameters		
Frequency range		9 kHz to 250 MHz instantaneously
Nominal output load		50 Ω
Nominal power		250 W
Power output	at power saturation	max. 350 W
	at 1 dB compression and +25 °C	typ. 250 W, min. 160 W
	at 1 dB compression and temperature range 0 °C to +45 °C	typ. 250 W, min. 140 W
Nominal power gain	without RF input switch module	57.5 dB
	with RF input switch module	54.0 dB
Gain flatness	at 1 dB compression and +25 °C	< 4 dB
	at 1 dB compression and temperature range 0 °C to +45 °C	< 5 dB
Gain adjustment range		> 20 dB
Harmonics	at 125 W	< –20 dBc
	at 250 W	< –15 dBc (3rd harmonic)
Third order intercept point (TOI)		min. 60 dBm
Spurious		typ. –80 dBc, max. –70 dBc
Noise figure	at maximum gain, without RF input switch module	nom. < 13.5 dB
	at maximum gain, with RF input switch module	nom. < 17.0 dB

Input		
Nominal input impedance		50 Ω
Input level for nominal output power	without RF input switch module	–3.5 dBm
	with RF input switch module	0 dBm
Input VSWR	at 50 Ω	max. 2:1
Input maximum level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance		100 %
Output power forward	at VSWR < 6:1	100 %
	at VSWR < 10:1	between 40 % and 100 % depending on phase and magnitude of the mismatch
Output mismatch protection, VSWR		10:1

RF sample and detected sample signals		
RF sample coupling factor	RF forward and reflected sample signal, optionally	60 dB ± 1 dB
Detected sample signal level	detected forward and reflected sample signal, optionally	0.1 V to 3.0 V DC

Mechanical specifications

System size		
Dimensions	overall W × H × D, incl. fans, handholds and stand	430 mm × 250 mm × 710 mm (16.93 in × 9.84 in × 27.95 in)
	for rackmounting	19" 1/1, 5 HU
Weight	base unit	approx. 25 kg (approx. 55 lb)
	with typical options	approx. 26 kg (approx. 57 lb)

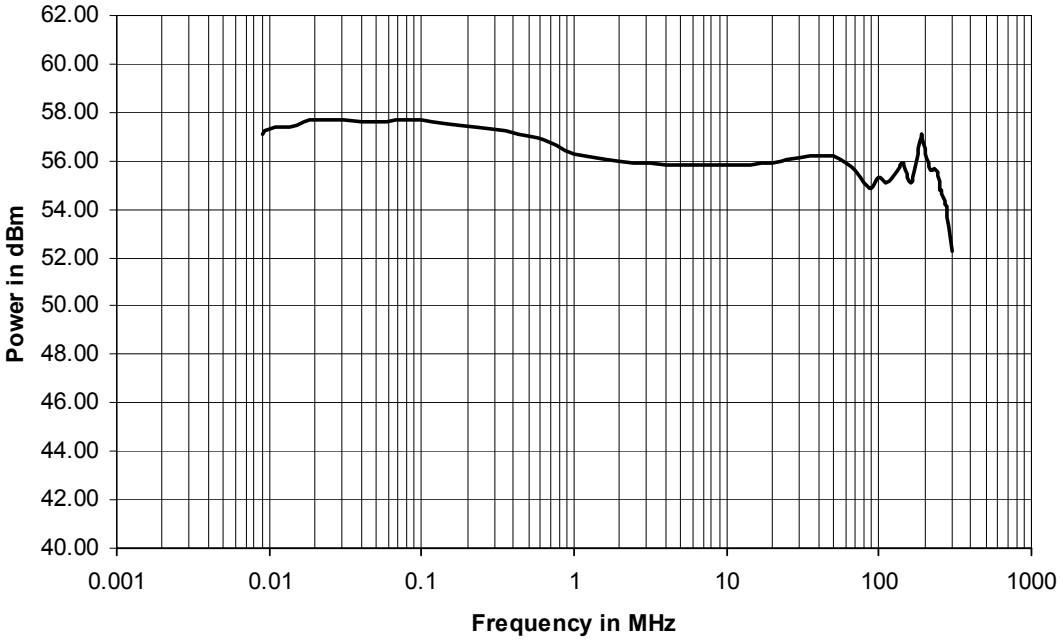
RF and sample connectors		
RF input port	front panel, alternatively	N female
	rear panel, alternatively	SMA female
RF output port	front panel, alternatively	N female
	rear panel, alternatively	N female
RF sample port	forward output power, optionally	SMA female
	reflected output power, optionally	SMA female
Detected sample port	forward output power, optionally	SMA female
	reflected output power, optionally	SMA female

Electrical specifications

Supply voltage AC		
Operating voltage range		100 V to 240 V AC, 50/60 Hz, single phase
Permissible voltage variation		90 V to 264 V AC, 47 Hz to 63 Hz
Nominal current	at 110 V	< 14.2 A
	at 230 V	< 6.8 A
Maximum power consumption		< 1560 VA

Power class 500 W

Frequency response at 1 dB compression



RF specifications

Main parameters		
Frequency range		9 kHz to 250 MHz instantaneously
Nominal output load		50 Ω
Nominal power		500 W
Power output	at power saturation	max. 600 W
	at 1 dB compression and +25 °C	typ. 400 W, min. 300 W
	at 1 dB compression and temperature range 0 °C to +45 °C	typ. 400 W, min. 260 W
Nominal power gain	without RF input switch module	60.5 dB
	with RF input switch module	57.0 dB
Gain flatness	at 1 dB compression and +25 °C	< 4 dB
	at 1 dB compression and temperature range 0 °C to +45 °C	< 5 dB
Gain adjustment range		> 20 dB
Harmonics	at 250 W	< –20 dBc
	at 500 W	< –15 dBc (3rd harmonic)
Third order intercept point (TOI)		min. 62 dBm
Spurious		typ. –80 dBc, max. –70 dBc
Noise figure	at maximum gain, without RF input switch module	nom. < 13.5 dB
	at maximum gain, with RF input switch module	nom. < 17.0 dB

Input		
Nominal input impedance		50 Ω
Input level for nominal output power	without RF input switch module	–3.5 dBm
	with RF input switch module	0 dBm
Input VSWR	at 50 Ω	max. 2:1
Input maximum level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance		100 %
Output power forward	at VSWR < 6:1	100 %
	at VSWR < 10:1	between 40 % and 100 % depending on phase and magnitude of the mismatch
Output mismatch protection, VSWR		10:1

RF sample and detected sample signals		
RF sample coupling factor	RF forward and reflected sample signal, optionally	60 dB ± 1 dB
Detected sample signal level	detected forward and reflected sample signal, optionally	0.1 V to 3.0 V DC

Mechanical specifications

System size		
Dimensions	overall W × H × D, incl. fans, handholds and stand	430 mm × 250 mm × 710 mm (16.93 in × 9.84 in × 27.95 in)
	for rackmounting	19" 1/1, 5 HU
Weight	base unit	approx. 37 kg (approx. 81 lb)
	with typical options	approx. 38 kg (approx. 83 lb)

RF and sample connectors		
RF input port	front panel, alternatively	N female
	rear panel, alternatively	SMA female
RF output port	front panel, alternatively	N female
	rear panel, alternatively	7/16 DIN female
RF sample port	forward output power, optionally	SMA female
	reflected output power, optionally	SMA female
Detected sample port	forward output power, optionally	SMA female
	reflected output power, optionally	SMA female

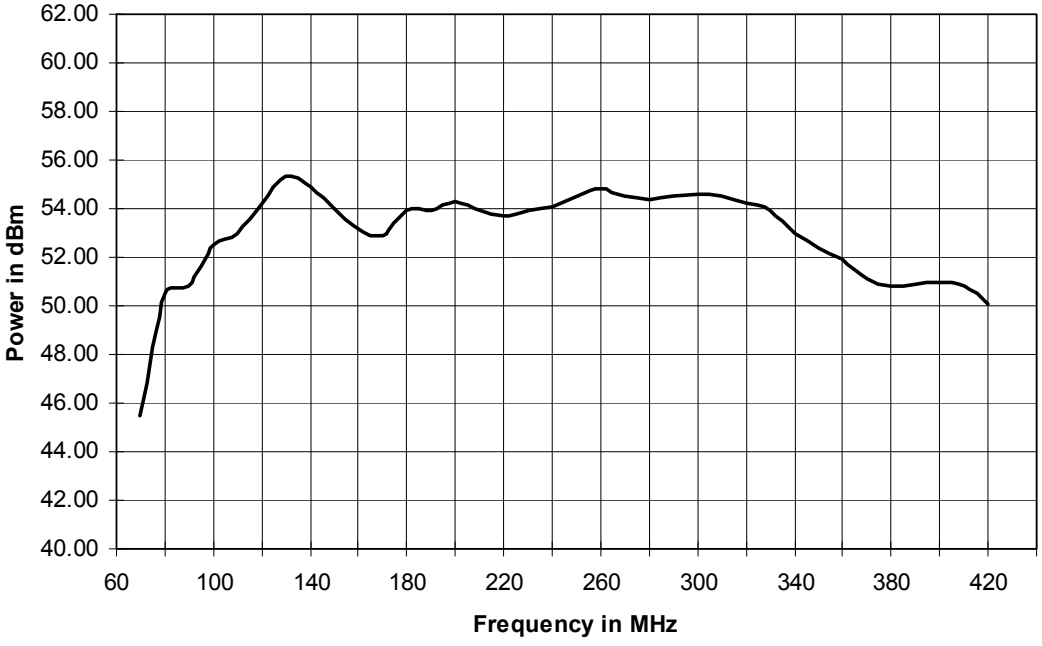
Electrical specifications

Supply voltage AC		
Operating voltage range		100 V to 240 V AC, 50/60 Hz, single phase
Permissible voltage variation		90 V to 264 V AC, 47 Hz to 63 Hz
Nominal current	at 110 V	< 27.5 A
	at 230 V	< 13.0 A
Maximum power consumption		< 3000 VA

Frequency band 80 MHz to 400 MHz

Power class 125 W

Frequency response at 1 dB compression



RF specifications

Main parameters		
Frequency range		80 MHz to 400 MHz instantaneously
Nominal output load		50 Ω
Nominal power		125 W
Power output	at power saturation	max. 400 W
	at 1 dB compression	typ. 125 W, min. 100 W
Nominal power gain	without RF input switch module	54.5 dB
	with RF input switch module	51.0 dB
Gain flatness	at 1 dB compression and +25 °C	< 4 dB
	at 1 dB compression and temperature range 0 °C to +45 °C	< 5 dB
Gain adjustment range		> 20 dB
Harmonics	at 125 W	< –20 dBc
Third order intercept point (TOI)		min. 57 dBm
Spurious		typ. –80 dBc, max. –70 dBc
Noise figure	at maximum gain, without RF input switch module	nom. < 12.5 dB
	at maximum gain, with RF input switch module	nom. < 16.0 dB

Input		
Nominal input impedance		50 Ω
Input level for nominal output power	without RF input switch module	–3.5 dBm
	with RF input switch module	0 dBm
Input VSWR	at 50 Ω	max. 2:1
Input maximum level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance		100 %
Output power forward	at VSWR < 10:1	100 %
Output mismatch protection, VSWR		10:1

RF sample and detected sample signals		
RF sample coupling factor	RF forward and reflected sample signal, optionally	60 dB ± 1 dB
Detected sample signal level	detected forward and reflected sample signal, optionally	0.4 V to 3.0 V DC

Mechanical specifications

System size		
Dimensions	overall W × H × D, incl. fans, handholds and stand	430 mm × 250 mm × 710 mm (16.93 in × 9.84 in × 27.95 in)
	for rackmounting	19" 1/1, 5 HU
Weight	base unit	approx. 22 kg (approx. 48 lb)
	with typical options	approx. 23 kg (approx. 50 lb)

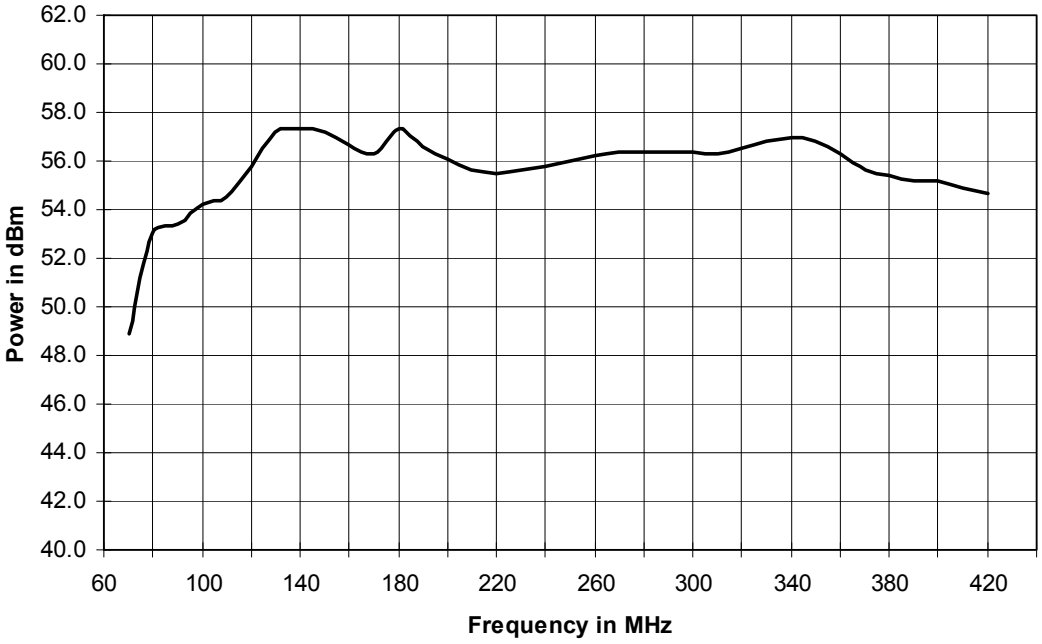
RF and sample connectors		
RF input port	front panel, alternatively	N female
	rear panel, alternatively	SMA female
RF output port	front panel, alternatively	N female
	rear panel, alternatively	N female
RF sample port	forward output power, optionally	SMA female
	reflected output power, optionally	SMA female
Detected sample port	forward output power, optionally	SMA female
	reflected output power, optionally	SMA female

Electrical specifications

Supply voltage AC		
Operating voltage range		100 V to 240 V AC, 50/60 Hz, single phase
Permissible voltage variation		90 V to 264 V AC, 47 Hz to 63 Hz
Nominal current	at 110 V	< 11.0 A
	at 230 V	< 5.1 A
Maximum power consumption		< 1200 VA

Power class 250 W

Frequency response at 1 dB compression



RF specifications

Main parameters		
Frequency range		80 MHz to 400 MHz instantaneously
Nominal output load		50 Ω
Nominal power		250 W
Power output	at power saturation	max. 600 W
	at 1 dB compression	typ. 250 W, min. 180 W
Nominal power gain	without RF input switch module	57.5 dB
	with RF input switch module	54.0 dB
Gain flatness	at 1 dB compression and +25 °C	< 4 dB
	at 1 dB compression and temperature range 0 °C to +45 °C	< 5 dB
Gain adjustment range		> 20 dB
Harmonics	at 250 W	< –20 dBc
Third order intercept point (TOI)		min. 58 dBm
Spurious		typ. –80 dBc, max. –70 dBc
Noise figure	at maximum gain, without RF input switch module	nom. < 12.5 dB
	at maximum gain, with RF input switch module	nom. < 16.0 dB

Input		
Nominal input impedance		50 Ω
Input level for nominal output power	without RF input switch module	–3.5 dBm
	with RF input switch module	0 dBm
Input VSWR	at 50 Ω	max. 2:1
Input maximum level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance		100 %
Output power forward	at VSWR < 6:1	100 %
	at VSWR < 10:1	between 50 % and 100 % depending on phase and magnitude of the mismatch
Output mismatch protection, VSWR		10:1

RF sample and detected sample signals		
RF sample coupling factor	RF forward and reflected sample signal, optionally	60 dB ± 1 dB
Detected sample signal level	detected forward and reflected sample signal, optionally	0.4 V to 3.0 V DC

Mechanical specifications

System size		
Dimensions	overall W × H × D, incl. fans, handholds and stand	430 mm × 250 mm × 710 mm (16.93 in × 9.84 in × 27.95 in)
	for rackmounting	19" 1/1, 5 HU
Weight	base unit	approx. 25 kg (approx. 55 lb)
	with typical options	approx. 26 kg (approx. 57 lb)

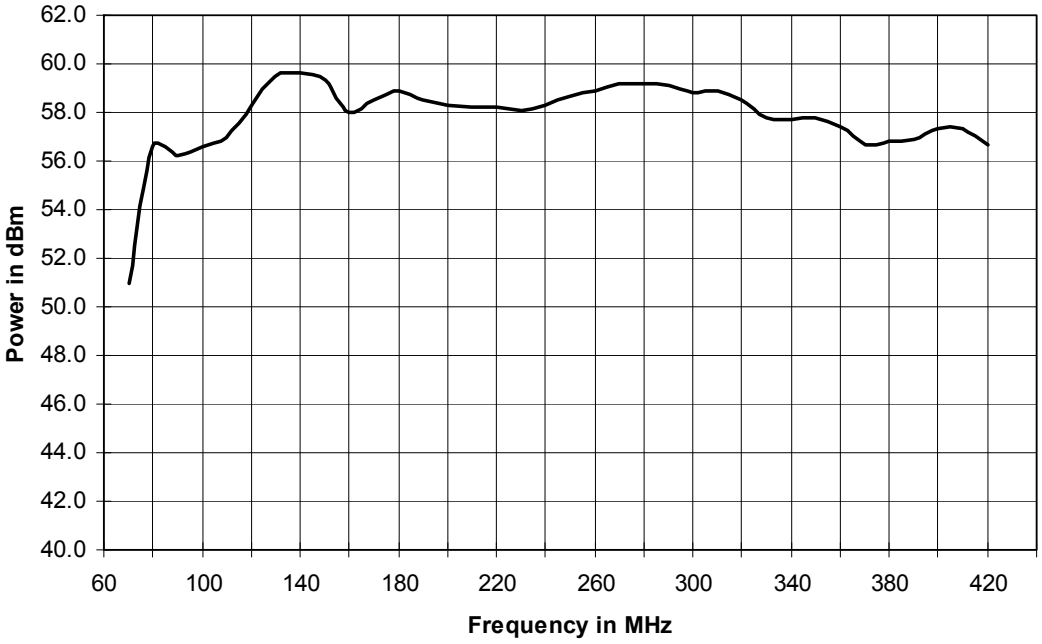
RF and sample connectors		
RF input port	front panel, alternatively	N female
	rear panel, alternatively	SMA female
RF output port	front panel, alternatively	N female
	rear panel, alternatively	N female
RF sample port	forward output power, optionally	SMA female
	reflected output power, optionally	SMA female
Detected sample port	forward output power, optionally	SMA female
	reflected output power, optionally	SMA female

Electrical specifications

Supply voltage AC		
Operating voltage range		100 V to 240 V AC, 50/60 Hz, single phase
Permissible voltage variation		90 V to 264 V AC, 47 Hz to 63 Hz
Nominal current	at 110 V	< 14.0 A
	at 230 V	< 6.8 A
Maximum power consumption		< 1560 VA

Power class 500 W

Frequency response at 1 dB compression



RF specifications

Main parameters		
Frequency range		80 MHz to 400 MHz instantaneously
Nominal output load		50 Ω
Nominal power		500 W
Power output	at power saturation	max. 1000 W
	at 1 dB compression	typ. 500 W, min. 360 W
Nominal power gain	without RF input switch module	60.5 dB
	with RF input switch module	57.0 dB
Gain flatness	at 1 dB compression and +25 °C	< 4 dB
	at 1 dB compression and temperature range 0 °C to +45 °C	< 5 dB
Gain adjustment range		> 20 dB
Harmonics	at 500 W	< –20 dBc
Third order intercept point (TOI)		min. 61 dBm
Spurious		typ. –80 dBc, max. –70 dBc
Noise figure	at maximum gain, without RF input switch module	nom. < 12.5 dB
	at maximum gain, with RF input switch module	nom. < 16.0 dB

Input		
Nominal input impedance		50 Ω
Input level for nominal output power	without RF input switch module	–3.5 dBm
	with RF input switch module	0 dBm
Input VSWR	at 50 Ω	max. 2:1
Input maximum level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance		100 %
Output power forward	at VSWR < 4:1	100 %
	at VSWR < 10:1	between 50 % and 100 % depending on phase and magnitude of the mismatch
Output mismatch protection, VSWR		10:1

RF sample and detected sample signals		
RF sample coupling factor	RF forward and reflected sample signal, optionally	60 dB ± 1 dB
Detected sample signal level	detected forward and reflected sample signal, optionally	0.4 V to 3.0 V DC

Mechanical specifications

System size		
Dimensions	overall W × H × D, incl. fans, handholds and stand	430 mm × 250 mm × 710 mm (16.93 in × 9.84 in × 27.95 in)
	for rackmounting	19" 1/1, 5 HU
Weight	base unit	approx. 37 kg (approx. 81 lb)
	with typical options	approx. 38 kg (approx. 83 lb)

RF and sample connectors		
RF input port	front panel, alternatively	N female
	rear panel, alternatively	SMA female
RF output port	front panel, alternatively	N female
	rear panel, alternatively	7/16 DIN female
RF sample port	forward output power, optionally	SMA female
	reflected output power, optionally	SMA female
Detected sample port	forward output power, optionally	SMA female
	reflected output power, optionally	SMA female

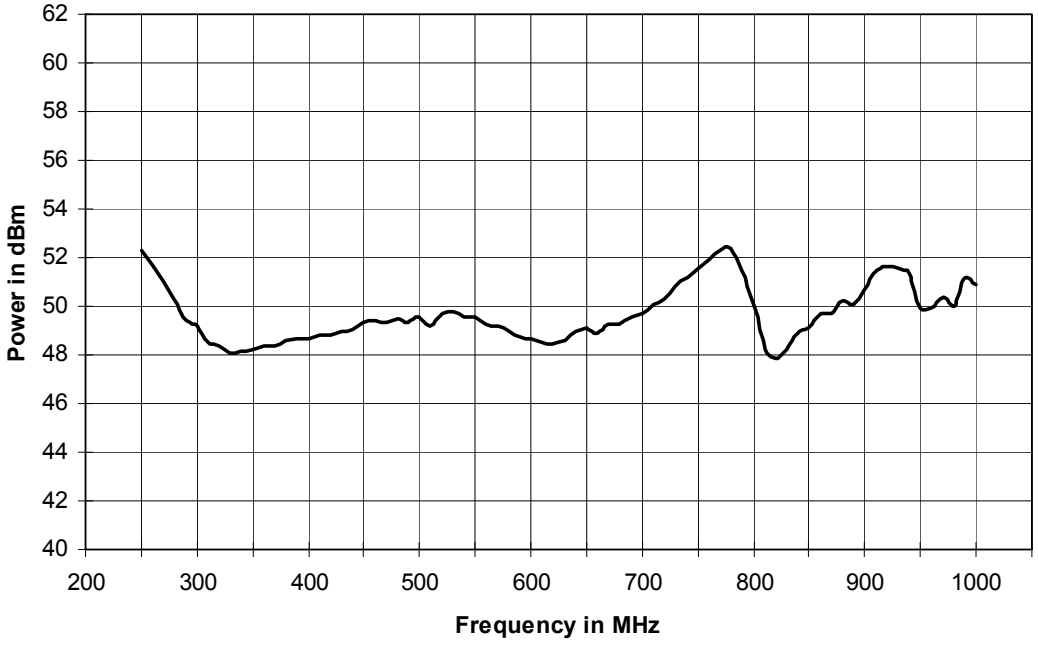
Electrical specifications

Supply voltage AC		
Operating voltage range		100 V to 240 V AC, 50/60 Hz, single phase
Permissible voltage variation		90 V to 264 V AC, 47 Hz to 63 Hz
Nominal current	at 110 V	< 27.5 A
	at 230 V	< 13.0 A
Maximum power consumption		< 3000 VA

Frequency band 250 MHz to 1 GHz

Power class 70 W

Frequency response at 1 dB compression



RF specifications

Main parameters		
Frequency range		250 MHz to 1 GHz instantaneously
Nominal output load		50 Ω
Nominal power		70 W
Power output	at power saturation	max. 170 W
	at 1 dB compression	typ. 70 W, min. 50 W
Nominal power gain	without RF input switch module	52.0 dB
	with RF input switch module	48.5 dB
Gain flatness	at 1 dB compression and +25 °C	< 4.0 dB
	at 1 dB compression and temperature range 0 °C to +45 °C	< 5.0 dB
Gain adjustment range		> 20 dB
Harmonics	at 70 W	< –20 dBc
Third order intercept point (TOI)		min. 55 dBm
Spurious		typ. –80 dBc, max. –70 dBc
Noise figure	at maximum gain, without RF input switch module	nom. < 14.0 dB
	at maximum gain, with RF input switch module	nom. < 17.5 dB

Input		
Nominal input impedance		50 Ω
Input level for nominal output power	without RF input switch module	–3.5 dBm
	with RF input switch module	0 dBm
Input VSWR	at 50 Ω	max. 2:1
Input maximum level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance		100 %
Output power forward	at VSWR < 6:1	100 %
	at VSWR < 10:1	between 60 % and 100 % depending on the phase and magnitude of the mismatch
Output mismatch protection, VSWR		10:1

RF sample and detected sample signals		
RF sample coupling factor	RF forward and reflected sample signal, optionally	60 dB ± 1 dB
Detected sample signal level	detected forward and reflected sample signal, optionally	0.4 V to 3.0 V DC

Mechanical specifications

System size		
Dimensions	overall W × H × D, incl. fans, handholds and stand	430 mm × 250 mm × 710 mm (16.93 in × 9.84 in × 27.95 in)
	for rackmounting	19" 1/1, 5 HU
Weight	base unit	approx. 21 kg (approx. 46 lb)
	with typical options	approx. 22 kg (approx. 48 lb)

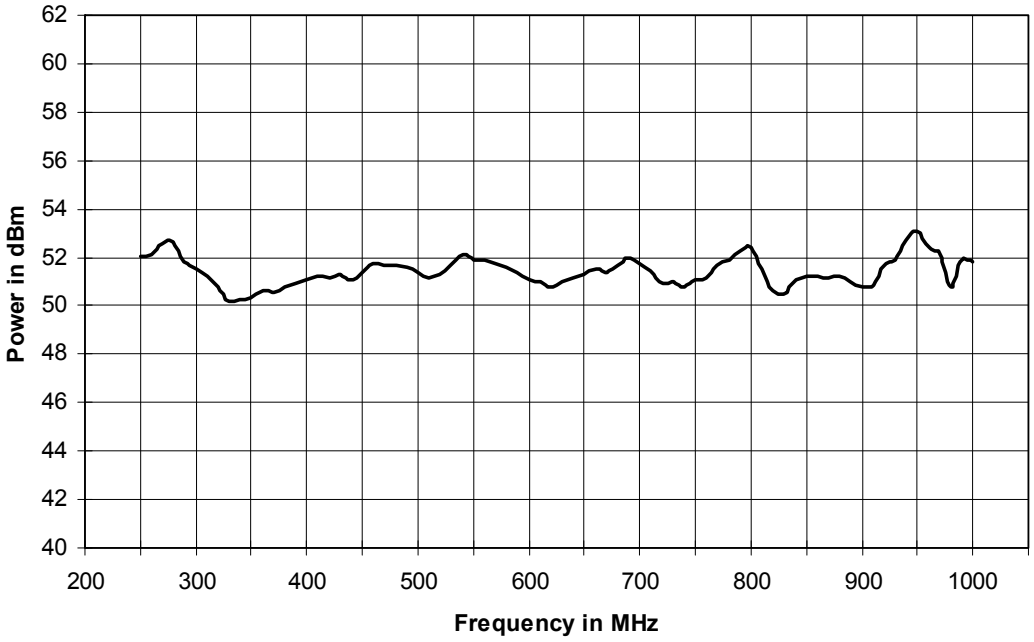
RF and sample connectors		
RF input port	front panel, alternatively	N female
	rear panel, alternatively	SMA female
RF output port	front panel, alternatively	N female
	rear panel, alternatively	N female
RF sample port	forward output power, optionally	SMA female
	reflected output power, optionally	SMA female
Detected sample port	forward output power, optionally	SMA female
	reflected output power, optionally	SMA female

Electrical specifications

Supply voltage AC		
Operating voltage range		100 V to 240 V AC, 50/60 Hz, single phase
Permissible voltage variation		90 V to 264 V AC, 47 Hz to 63 Hz
Nominal current	at 110 V	< 4.8 A
	at 230 V	< 2.3 A
Maximum power consumption		< 700 VA

Power class 125 W

Frequency response at 1 dB compression



RF specifications

Main parameters		
Frequency range		250 MHz to 1 GHz instantaneously
Nominal output load		50 Ω
Nominal power		125 W
Power output	at power saturation	max. 300 W
	at 1 dB compression	typ. 125 W, min. 80 W
Nominal power gain	without RF input switch module	54.5 dB
	with RF input switch module	51.0 dB
Gain flatness	at 1 dB compression and +25 °C	< 4.0 dB
	at 1 dB compression and temperature range 0 °C to +45 °C	< 5.0 dB
Gain adjustment range		> 20 dB
Harmonics	at 125 W	< –18 dBc
Third order intercept point (TOI)		min. 58 dBm
Spurious		typ. –80 dBc, max. –70 dBc
Noise figure	at maximum gain, without RF input switch module	nom. < 14.0 dB
	at maximum gain, with RF input switch module	nom. < 17.5 dB

Input		
Nominal input impedance		50 Ω
Input level for nominal output power	without RF input switch module	–3.5 dBm
	with RF input switch module	0 dBm
Input VSWR	at 50 Ω	max. 2:1
Input maximum level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance		100 %
Output power forward	at VSWR < 6:1	100 %
	at VSWR < 10:1	between 60 % and 100 % depending on the phase and magnitude of the mismatch
Output mismatch protection, VSWR		10:1

RF sample and detected sample signals		
RF sample coupling factor	RF forward and reflected sample signal, optionally	60 dB ± 1 dB
Detected sample signal level	detected forward and reflected sample signal, optionally	0.4 V to 3.0 V DC

Mechanical specifications

System size		
Dimensions	overall W × H × D, incl. fans, handholds and stand	430 mm × 250 mm × 710 mm (16.93 in × 9.84 in × 27.95 in)
	for rackmounting	19" 1/1, 5 HU
Weight	base unit	approx. 21 kg (approx. 46 lb)
	with typical options	approx. 22 kg (approx. 48 lb)

RF and sample connectors		
RF input port	front panel, alternatively	N female
	rear panel, alternatively	SMA female
RF output port	front panel, alternatively	N female
	rear panel, alternatively	N female
RF sample port	forward output power, optionally	SMA female
	reflected output power, optionally	SMA female
Detected sample port	forward output power, optionally	SMA female
	reflected output power, optionally	SMA female

Electrical specifications

Supply voltage AC		
Operating voltage range		100 V to 240 V AC, 50/60 Hz, single phase
Permissible voltage variation		90 V to 264 V AC, 47 Hz to 63 Hz
Nominal current	at 110 V	< 7.7 A
	at 230 V	< 3.7 A
Maximum power consumption		< 1300 VA

General data

Modulation specifications

Modulation capability	no multi-carrier operation at VSWR > 2:1 and no operation with peak input power of more than 3 dB above nominal input power	AM, FM, φM or PM

Electrical specifications

Supply voltage AC		
Operating voltage range		100 V to 240 V AC, 50/60 Hz, single phase, max. 5.5 kVA
Permissible voltage variation		90 V to 264 V AC, 47 Hz to 63 Hz

Cooling specifications

Air cooling		forced air, built-in fans, air entry at front, air exit at rear

Control specifications

Remote control		
GPIB/IEEE 488	GPIB or Ethernet free of charge	IEC 60625-2 24 pin connector
Ethernet	GPIB or Ethernet free of charge	RJ-45, 10/100 Mbit/s, auto negotiation, half/full duplex
Optical Ethernet	optionally	FDDI PMD, 100 Mbit/s, duplex SC connector

Local MMI		
Local graphical display		
Display resolution		320 × 240 pixel
Display colors		16.7 million
Manual controls	lever key	mains switch
	operate push-buttons	system standby/on RF standby/operate local/remote
	menu push buttons	arrow up, down, left, right ok menu back home function status
LED status information	per amplifier system	system standby/on system state RF interlock RF standby/operate local/remote mute ready (reserved for future use)
	per amplifier module	power supply RF forward RF reflected temperature

Web GUI		
Local web GUI	via front Ethernet	RJ-45, 10/100 Mbit/s, auto negotiation, half/full duplex
Remote web GUI	via rear Ethernet	RJ-45, 10/100 Mbit/s, auto negotiation, half/full duplex

Environmental specifications

Temperature loading	operating temperature range	0 °C to +45 °C
	storage temperature range	–30 °C to +70 °C
Damp heat		max. +40 °C at 95 % rel. humidity, without condensation
Altitude	operating altitude	up to 3000 m
	storage altitude	up to 4600 m
Mechanical resistance test values	vibration, sinusoidal	5 Hz to 55 Hz displacement 0.15 mm const. > 55 Hz to 150 Hz acceleration 0.5 g in line with EN 60068-2-6
	vibration, random	effective acceleration ≤ 1.9 g 10 Hz to 300 Hz acceleration density 0.01 g^2/Hz in line with EN 60068-2-64
	shock	18 sawtooth shocks, each 40 g in 11 ms in line with EN 60068-2-27, MIL-STD-810
Calibration interval		no calibration needed
Electromagnetic compatibility	overall	in line with EN 61326-1, industrial area, performance characteristic A
	electromagnetic fields	≤ 10 V/m in line with IEC 61000-4-3
	surge test line to ground	≤ 2 kV in line with IEC 61000-4-5
	surge test line to line	≤ 1 kV in line with IEC 61000-4-5
	bursts	≤ 2 kV in line with IEC 61000-4-4
Electromagnetic emissions	overall	in line with EN 55011 (CISPR 11), industrial area, ISM group 1 (signal generators)
	conducted emissions	in line with EN 55011, class A (CISPR 11)
	radiated emissions	limits of FCC047 cfr18 and limits of EN 55011 class A (CISPR 11) exceeded, equipment for use in shielded areas only (shielding +40 dB for FCC047 or +50 dB for EN 55011 necessary)
Electrical safety		in line with EN 61010-1:2001 (second edition), IEC 61010-1:2001 (ed. 2), CAN/CSA-C22.2 No. 61010-1-04, UL 61010-1 2nd edition Jul 12 2004

Protection

RF		
Input overdrive	without damage	max. +15 dBm
	input blanking	approx. +4 dBm above nominal input level
Load VSWR		10:1
Safety interlock		3 configurable circuits
Input protection against BIAS voltage	optionally	DC block level ≤ 50 V DC

Power supply		
Transient voltage compatibility		category II in line with IEC 60364-4-443
Maximum transient surge current	surge waveform 8/50 µs	≤ 6500 A
Short-circuit breaking capacity		automatic all-pole circuit breaker 32 A

Miscellaneous		
Thermal overload		shutdown at +55 °C ambient temperature

Ordering information

We recommend that you ask your local Rohde & Schwarz expert to find the solution that is optimally suited to your needs.

R&S®BBA100 single-band power amplifiers

Frequency band 9 kHz to 250 MHz

Designation	Type	Configuration No.
125 W, air-cooled, 5 HU desktop model	R&S®BBA100	BBA100-A125
250 W, air-cooled, 5 HU desktop model	R&S®BBA100	BBA100-A250
500 W, air-cooled, 5 HU desktop model	R&S®BBA100	BBA100-A500

Frequency band 80 MHz to 400 MHz

Designation	Type	Configuration No.
125 W, air-cooled, 5 HU desktop model	R&S®BBA100	BBA100-B125
250 W, air-cooled, 5 HU desktop model	R&S®BBA100	BBA100-B250
500 W, air-cooled, 5 HU desktop model	R&S®BBA100	BBA100-B500

Frequency band 250 MHz to 1 GHz

Designation	Type	Configuration No.
70 W, air-cooled, 5 HU desktop model	R&S®BBA100	BBA100-C70
125 W, air-cooled, 5 HU desktop model	R&S®BBA100	BBA100-C125

Accessories supplied: power cord, user manual on CD.

R&S®BBA100 dual-band power amplifiers

The example configurations listed below are merely a selection of possible configurations. All frequency ranges and power classes can be combined as desired. Please ask your local Rohde & Schwarz expert about your specific solution.

Frequency bands 9 kHz to 250 MHz and 80 MHz to 400 MHz

Designation	Type	Configuration No.
125 W/125 W, air-cooled, 5 HU desktop model	R&S®BBA100	BBA100-A125B125
250 W/250 W, air-cooled, 5 HU desktop model	R&S®BBA100	BBA100-A250B250
500 W/500 W, air-cooled, 12 HU rack model	R&S®BBA100	BBA100-A500B500

Frequency bands 9 kHz to 250 MHz and 250 MHz to 1 GHz

Designation	Type	Configuration No.
125 W/70 W, air-cooled, 5 HU desktop model	R&S®BBA100	BBA100-A125C70
125 W/125 W, air-cooled, 5 HU desktop model	R&S®BBA100	BBA100-A125C125
250 W/70 W, air-cooled, 5 HU desktop model	R&S®BBA100	BBA100-A250C70
250 W/125 W, air-cooled, 5 HU desktop model	R&S®BBA100	BBA100-A250C125
500 W/70 W, air-cooled, 12 HU rack model	R&S®BBA100	BBA100-A500C70
500 W/125 W, air-cooled, 12 HU rack model	R&S®BBA100	BBA100-A500C125

Frequency bands 80 MHz to 400 MHz and 250 MHz to 1 GHz

Designation	Type	Configuration No.
125 W/70 W, air-cooled, 5 HU desktop model	R&S®BBA100	BBA100-B125C70
125 W/125 W, air-cooled, 5 HU desktop model	R&S®BBA100	BBA100-B125C125
250 W/70 W, air-cooled, 5 HU desktop model	R&S®BBA100	BBA100-B250C70
250 W/125 W, air-cooled, 5 HU desktop model	R&S®BBA100	BBA100-B250C125
500 W/70 W, air-cooled, 12 HU rack model	R&S®BBA100	BBA100-B500C70
500 W/125 W, air-cooled, 12 HU rack model	R&S®BBA100	BBA100-B500C125

Accessories supplied: power cord, user manual on CD.

R&S®BBA100 tri-band power amplifiers

The example configurations listed below are merely a selection of possible configurations. All frequency ranges and power classes can be combined as desired. Please ask your local Rohde & Schwarz expert about your specific solution.

Frequency bands 9 kHz to 250 MHz, 80 MHz to 400 MHz and 250 MHz to 1 GHz

Designation	Type	Configuration No.
125 W/250 W/70 W, air-cooled, 5 HU desktop model	R&S®BBA100	BBA100-A125B250C70
125 W/250 W/125 W, air-cooled, 12 HU rack model	R&S®BBA100	BBA100-A125B250C125
250 W/250 W/70 W, air-cooled, 12 HU rack model	R&S®BBA100	BBA100-A250B250C70
250 W/250 W/125 W, air-cooled, 12 HU rack model	R&S®BBA100	BBA100-A250B250C125
500 W/500 W/70 W, air-cooled, 15 HU rack model	R&S®BBA100	BBA100-A500B500C70
500 W/500 W/125 W, air-cooled, 15 HU rack model	R&S®BBA100	BBA100-A500B500C125

Accessories supplied: power cord, user manual on CD.

Options

Designation	Type	Order No.
GPIB Remote Control	R&S®BBA-K101	5353.8417.00
Ethernet Remote Control	R&S®BBA-K103	5353.8430.00
Optical Ethernet Remote Control	R&S®BBA-B104	5353.8600.00
RF Input Switch	R&S®BBA-B110	5353.9320.02
DC Block Input Protection (SMA rear)	R&S®BBA-B132	5353.9236.02
DC Block Input Protection (N front)	R&S®BBA-B132	5353.9236.03
RF Forward/RF Reflected Sample Ports (SMA front)	R&S®BBA-B140	5353.9213.02
RF Forward/RF Reflected Sample Ports (SMA rear)	R&S®BBA-B140	5353.9213.03
Detected Forward/Detected Reflected Sample Ports (SMA front)	R&S®BBA-B141	5353.9220.02
Detected Forward/Detected Reflected Sample Ports (SMA rear)	R&S®BBA-B141	5353.9220.03

Services

Designation	Type	Order No.
Factory acceptance test (FAT), 1 day	R&S®PROJ-D	5354.9100.53

Accessories

Designation	Type	Order No.
Spare Set of Air Filters (2 pcs.)	R&S®ZR1-AF01	5353.9459.00
Blank Panel Kit, 1 HU	R&S®ZR1-BP01	5353.9559.11
Blank Panel Kit, 2 HU	R&S®ZR1-BP01	5353.9559.12
Blank Panel Kit, 3 HU	R&S®ZR1-BP01	5353.9559.13
Blank Panel Kit, 4 HU	R&S®ZR1-BP01	5353.9559.14
Blank Panel Kit, 5 HU	R&S®ZR1-BP01	5353.9559.15
R&S®BBA100 Rack, 12 HU	R&S®KG-A800	5354.0503.12
R&S®BBA100 Rack, 15 HU	R&S®KG-A800	5354.0503.15
R&S®BBA100 Rack, 20 HU	R&S®KG-A800	5354.0503.20
Rack Wheels (4 pcs.)	R&S®ZR1-RW	5353.9707.03
Rack Mounting Brackets (pair)	R&S®ZR1-RA01	5353.9571.02
R&S®BBA100 Mounting Rails (pair)	R&S®ZR1-SLR01	5353.9520.00
Standard Mounting Rails (pair)	R&S®ZR1-SLR02	5353.9565.02
AC Power Cord (German plug), PE cable	R&S®ZR1-PSEA	5353.9365.02
AC Power Cord (without plug), PE cable	R&S®ZR1-PSEA	5353.9365.03
R&S®BBA100 Operating Manual German, printed version	R&S®BBA-MA	5354.9017.11
R&S®BBA100 Operating Manual English, printed version	R&S®BBA-MA	5354.9017.12

For product flyer, see PD 5214.0753.32 and www.rohde-schwarz.com

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Rohde&Schwarz is an independent group of companies specializing in electronics. It is a leading supplier of solutions in the fields of test and measurement, broadcasting, radiomonitoring and radiolocation, as well as secure communications. Established more than 75 years ago, Rohde&Schwarz has a global presence and a dedicated service network in over 70 countries. Company headquarters are in Munich, Germany.

Environmental commitment

- Energy-efficient products
- Continuous improvement in environmental sustainability
- ISO 14001-certified environmental management system

Certified Quality System
ISO 9001

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PD 5214.0753.22 | Version 02.00 | April 2010 | R&S®BBA100
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